KHAMUDKHANOV, Muzafar Zakhidkhanovich; FAZYLOV, Kh.F., akademik, otv.red.;
PAVLOVA, M.I., red.izd-va; HARTSEVA, V.P., tekhn.red.

[Frequency control of an asynchronous electric drive by use of an
autonomous inverter] Chastotnoe upravlenie asinkhronnym elektro-
privodom pri pomoshchi avtonomnogo invertora. Tashkent, Izd-vo
Akad.nauk Uzbekskoi SSR, 1959. 334 p. (MIRA 13:5)

1. AN UzSSR (for Fazylov).
            (Electric motors, Induction)

SYROMYATNIKOV, I.A.; NEKRASOV, A.M.; LEBEDEV, A.A.; KOSTENKO, M.P.;
NEYMAN, L.R.; VASIL'YEV, D.V.; KAMENSKIY, M.D.; USOV, S.V.;
POSSE, A.V.; UL'YANOV, S.A.; FAZYLOV, Kh.F.

Professor N.N. Shchedrin; on his seventieth birthday and fortieth
anniversary of his educational work. Elektrichestvo no.1:94-
95 Ja '62.   (MIRA 14:12)
          (Shchedrin, Nikolai Nikolaevich, 1891-)

FAZYLOV, Kh. F., akademik

Khabib Mukhamedovich Abdullaev; obituary. Izv, AN Uz.SSSR.
Ser. tekh. nauk 6 no.5:99 '62.   (MIRA 15:10)

1. Sekretar' otdeleniya tekhnicheskikh nauk AN UzSSR.

   (Abduallaev, Khabib Mukhamedovich, 1912-1962)

GRINEVICH, G.A.; GARTSMAN, L.B.; RAKHIMOV, Kh.; PETELINA, N.A.;
    FAZYLOV, Kh.F., akademik, otv. red.; SHAFEYEVA, K.A.,
    red.; SOKOLOVA, A.A., red.; KARABAYEVA, Kh.U., tekhn.
    red.

[Study of the characteristics of regenerative power sources;
wind, water, and solar energy] Issledovaniia kharakteristik
rezhima vozobnovliaiushchikhsia istochnikov energii vody,
vetra i solntsa. Tashkent, 1963. 205 p.   (MIRA 16:8)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Institut energeti-
ki i avtomatiki. 2. AN UzSSR (for Fazylov).
                (Power resources)

FAZYLOV, Kh.F.; GRINEVICH, G.A., doktor tekhn. nauk, otv. red.;
 EYDEL'MAN, A.S., red.

[Methods for mode calculations of electrical systems; for
a unified calculational algorithm] Metody rezhimnykh ras-
chetov elektricheskikh sistem; k edinomu algoritmu rasche-
tov. Tashkent, Nauka, 1964. 96 p.   (MIRA 18:2)

L 20010-65   EWT(m)   Pc-4   RWH/RM
ACCESSION NR: AP5001896   S/0286/64/000/023/0048/0048

AUTHOR: Lerner, M. M.; Fazylov, Kh. F.; Fal'kovskiy, N. I.

TITLE: Electrolytic capacitor. Class 21, No. 166783

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1964, 48

TOPIC TAGS: electrolytic capacitor, dielectric insulation

ABSTRACT: An Author Certificate has been issued for an electrolytic
capacitor with dielectric insulation in the form of porous oxide
film on an aluminum base. For increased operating voltage, the
porous oxide film is impregnated with water desalted by means of an
ion-exchange resin. Specific resistance of the water is on the
order of 10^6 ohm. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 04Jul63   ENCL: 00   SUB CODE: EC, MT

NO REF SOV: 000   ;   OTHER: 000   ATD PRESS: 3161

Card 1/1

FAZYLOV, Kh. F.

Considering the network factor in economic distribution of the active power of a system among electric stations. Izv.AN Uz.SSR. Ser.tekh.nauk 9 no.5:4-8 '65.   (MIRA 18:10)

1. Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki.

FAZYLOV, M. F.

FAZYLOV, M. F. - "The effectiveness of cleaning crude cotton in the technological
system of cotton-picking machines during the collection process". Tashkent, 1955.
Min Higher Education USSR, **Tashkent** Textile Inst. (Dissertation for the Degree of
Candidate of Technical Sciences)
SO: Knizhnaya Letopis', No. 40, 1 Oct 55

FAZYLOV, N.F., kand.tekhn.nauk

Some causes of injuries to cottonseeds as a results of picking by
machine. Sbor. nauch.-issl. rab. TTI no.4:26-29 '57.   (MIRA 11:9)
          (Cottonseeds) (Cotton picking)

FAZYLOV, N.F.

Cleaning cotton during machine picking. Izv.AN Uz.SSR.Ser.tekh.
nauk no.3:44-50 '59. (MIRA 12:7)

1. Institut mekhaniki AN UzSSR.
(Cotton picking)

FAZYLOV, U.F.

Bracing 6-12M self-supporting wall panels to supporting structures of buildings. Sbor. nauch. trud. NII po strci. ASiA no.4:44-48 '63.   (MIRA 17:8)

ZAPROMETOV, B.G.; FAZYLOVA, M.F.

Effect of hydrophilic properties of $Fe(OH)_3$ colloidal particles on structural and mechanical properties of their coagulates. Trudy SAGU no.27:25-30 '51. (MLRA 9:5)
(Colloids) (Iron Hydroxides)

FAZYLOVA, M. E., Cand of Chem Sci -- (diss) "Reciprocal coagulation of the ashes of $Fe(OH)_3$, V_2O_5, SiO_8, As_2S_3, the suspended matter of loess and clay, and the structural-mechanical properties of their coagulants." Tashkent, 1957, 14 pp (Central Asian State University im Lenin), 150 copies (KL, 33-57, 88)

FAZYLOVA, M.F.; ZAPROMETOV, B.G. [deceased]

Structural and mechanical properties of reciprocal coagulates. Izv.
AN Uz. SSR Ser. khim. nauk no.1;55-65 '57.   (MIRA 13:10)
                    (Coagulation)

MARKMAN, A.L.; FAZYLOVA, M.F.

Polarographic behavior of vanillin. Uzb.khim.zhur. no.4:64-66
'61.   (MIRA 14:8)

1. Sredneaziatskiy politekhnicheskiy institut.
          (Vanillin)   (Polarography)

FAZYLOVA, S.

Effect of carbon dioxide concentration on photosynthesis in some
desert plants of the Kyzyl-Kum.   Uzb. biol. zhur. no.4:27-32 '61.
(MIRA 14:10)

1. Institut botaniki AN UzSSR.
          (KYZYL-KUM--PHOTOSYNTHESIS)

FAZYLOVA, S.F.

Effect of temperature on photosynthesis in some desert plants.
Uzb. biol. zhur. no.3:22-28 '61.   (MIRA 14:6)

1. Institut botaniki AN UzSSR.
         (UZBEKISTAN—DESERT FLORA)   (PHOTOSYNTHESIS)
              (PLANTS, EFFECT OF TEMPERATURE ON)

FAZILOVA, S.F.

Photosynthetic capacity of some plants of the southern Kyzyl Kum depending on their stage of development. Uzb. biol. zhur. no. 4:34-39 '60.   (MIRA 13:10)

1. Institut botaniki UzSSR.
   (KYZYL KUM—DESERT FLORA)   (PHOTOSYNTHESIS)

TOSTI,A.; FAZZINI,M.L.; ZAHEJSKY,J.

Contact microradiography of the skin. Cesk. derm. 39 no.2:
73-77   Ap'64

1. Dermato-venerologicka klinika Palermo; prednosta: prof.dr.
I.Bosco.

FEAFILAKTOV, Yu., inzh.

Cooperation of designers and technicians. Izobr.i rats. no.12:19 D '61.   (MIRA 14:12)

1. Byuro po delam ratsionalizatsii i izobretatel'stvu, g.Nizhniy Tagil.
          (Nizhniy Tagil.--Steelworks)

FEBO, Laszlo, dr.

When is the Faipar Lexikon [Wood Lexicon] to be published?
Faipar 13 no.4:129-130 Ap '63.

FEBRIANC, O.

Vertebrates of the Velky Ostrov Zitny (Great Schutt). I. p. 308

Vol. 10, no. 3, 1955
BIOLOGIA
Bratislava, Czechoslovakia

So: Eastern European Accession Vol. 5, No. 4, April 1956

FECAK, B.; MAJOR, K.; SPACEK, F.

Effect of the binding substance on the quality of amidopyrine tablets.
Cesk. farm. 11 no.7:342-345 S '62.

1. Katedra galenickej farmacie Farmaceutickej fakulty Univerzity
Komenskeho, Bratislava Leciva n.p., provozovna Zizkov, Praha.
(AMINOPYRINE)   (TABLETS)   (GELATIN)   (STARCH)

FECHK, B.

FECAK, B.

CSSR

FECAK, B,; GEORCH, D.; VOLDAN, B.

Dept of Galenic Pharmacy and dept. of biochemistry and microbiology of the
Pharmaceutical Faculty of Comenius University, Bratislava (katedra galenickej
farmacie a Katedra biochemie a mikrobiologie Farmaceutickej fakulty UK v
Bratislave), LO-KUNZ, Bratislava (for all)

"Some Data on the Conservation of Ophtalmological Preparations"

(3)

CZECHOSLOVAKIA

GEORCH, D; FECAK, B; VOLDAN, B.

1. Chair of Galenic Pharmacy of the Pharmaceutical $F_a$culty
   UK (Katedra galenickej farmacie Farmaceutickej fakulty UK),
   Bratislava; 2. Chair of Biochemistry and Microbiology
   of the Pharmaceutical ₤ Faculty UK (Katedra biochemie a
   mikrobiologie Farmaceutickej fakulty UK), Bratislav a

Bratislava, Farmaceuticky obzor, No 2, 1963, pp 58-62

"On the Question of the Conservation of Ophthalmological
   Preparations."

CZECHOSLOVAKIA

GEORCH, D; FECAK, B; VOLDAN, B.

1. Chair of Galenic Pharmacy (Katedra galenickej farmacie),
   Bratislava; 2. Chair of Biochemistry and Microbiology
   of the Pharmaceutical Faculty of UK (Katedra biochemie
   a mikrobiologie Farmaceutickej fakulty UK), Bratislava

Bratislava, Farmaceuticky obzor, No 4, 1963, pp 157-162

"Possibilities of Use of Septonex as a Conservation Means
   in the Preparation of Collyrium."

FECHER,A.S.;LOZA, V.M.

Effect of ascorbic acid on champagne wines. Izv. vys.ucheb. zav.;
pishch. tekh. no. 2:24-33 '58.   (MIRA 11:10)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra fizi-
cheskoy i kolloidnoy khimii i Kafedra tekhnologii vinodeliya.
                    (Champagne(Wine))
                    (Ascorbin acid)

FECHETE, A: CAZACU, I

Study related to the influence of phosphorus on the mechanical properties
of cast iron conatining nodular graphite. p.397

Academia Republicii Populare Romine. Centrul de Cercetari Metalurgics.
STUDII SI CERCETARI DE METALURGIE. Bucuresti, Rumania
Vol.3, no.3, 1958

Monthly list of East European Accessions (EEAI) LC, VOL.8, no.8, Aug, 1959

Uncl.

ACC NR: AT6034314   SOURCE CODE: RU/0017/66/000/002/0080/0082

AUTHOR: Fechete, A. (Engineer); Nita, V. (Engineer)

ORG: "Tractorul" Works, Brasov (Uzinele "Tractorul")

B

TITLE: Molding mixtures and the surface of pig iron parts

SOURCE: Metalurgia, no. 2, 1966, 80-82

TOPIC TAGS: pig iron, metal casting

ABSTRACT: Analyzing the surface defects of pig iron parts produced with the aid of various molding mixtures, the authors find the best finish was given by the use of synthetic molding mixtures with added bentonite and wood flour. Orig. art. has: 1 figure and 3 tables. [Based on authors' Eng. abst.] [JPRS: 36,867]

SUB CODE: 13 / SUBM DATE: none

Card 1/1   UDC: 621.742.4:621.741.2

25(1), 18(5)

AUTHORS: Cazacu, Iulian, Vădănici, Tiberiu, and Fechete, Alexandru, Engineers

TITLE: The Correlation Between the Index of Saturation and the Volume of Contraction Cavity in Grey Cast Iron

ABSTRACT: The authors begin their paper by giving the general equation of the relative volume of the contraction cavity of Fe-C alloys according to I.A. Nehendzi and N.G. Ghirsovici /Ref 1/ (Equation 1):

$$V_{ret} = \left[a_1(t_m-t_L) + {}_s - 1.5 \cdot (t_s - t_S) \right] \left[1 - \frac{q}{2R}\sqrt{\cdots} \right]$$

where a_1 is the coefficient of contraction of the liquid metal; t_m the average temperature of the liquid metal at the beginning of solidification; t_L the temperature of the solidification beginning; ${}_s$ the contraction of the metal in the process of solidification; the coefficient of linear contraction in solid state (the anteperlitic field); t_s the

Card 1/9

FECHETE, A.

Technical and scientific session at the Tractorul Plant in
Brasov. Metalurgia si constr mas 15 no.3:282 Mr '63.

VADANICI, T., ing.; NITA, V., ing.; FECHETE, A., ing.

Methods used for obtaining cast iron with higher physicomechanical
characteristics. Metalurgia Rum 17 no.2:88-90 F '65.

1. "Tractorul" Plant, Brasov.

YAKUBOVICH, I.A.; PASZHIN, N.P.; VILYANSKIY, M.P.; BABIN, S.Ye.; SLAVUTSKAYA,
N.I.; Prinimali uchastiye: PARADNYA, P.I.; RUPNEVSKAYA, M.I.; PURISMAN,
V.I.; LEONOVA, I.F.; PACHKOV, A.S.; BACHURINA, K.M.; FECHIN, M.I.;
YUKSINA, L.A.; PONOMAREV, Yu.F.; DYMOVICH, Ye.I.; PIKUSOVA, R.A.

Production and use of synthetic water-soluble polyacrylamide
adhesives. Ferm. i spirt.prom. 30 no.8:32-34 '64.

(MIRA 18:1)

1. Moskovskiy likero-vodochnyy zavod.

P/045/60/019/003/002/010
B022/B070

AUTHOR: Fechner, Bogdan

TITLE: On the Statistics of Spin Waves by the Bethe Method

PERIODICAL: Acta Physica Polonica, 1960, Vol. 19, No. 3, pp. 289 - 293

TEXT: The starting point in Bloch's spin wave theory is Heisenberg's
model of a ferromagnetic crystal where the interactions between electrons
are considered as perturbations. Using the perturbation theory with such
a model one gets in first approximation the system of Slater-Bloch's
equations. For the simplest case of a linear chain, Bethe has developed
a treatment to obtain a rigorous solution. Based on this treatment Frank
has discussed the symmetry properties of the amplitudes for interchange
of k in Slater-Bloch equations, and has arrived at the conclusion that
for spin waves the Fermi-Dirac statistics is more appropriate than the
Bose-Einstein. S. V. Svirskiy - B. Kh. Ishmukhametov and S. V. Vonsovskiy -
M. S. Svirskiy (Refs. 5,6) call in question this conclusion. They point
out that the results of Frank rest on an artificial introduction of
additional equations, which requires an extension of the definition of

Card 1/2

On the Statistics of Spin Waves by the Bethe   P/045/60/019/003/002/010
Method   B022/B070

the amplitude to the case $m_i = m_j$. This problem is examined in the
present paper. Following Bethe's method the author has deduced results
from the secular equations without introducing any additional equations
and without extending the definition of the amplitude, and these results
are found to be equivalent to those of Bethe and Frank. Thus the objection
mentioned above is shown not to be valid. It is pointed out, however,
that the correct results of Frank do not prove the reality of his con-
clusions. The results obtained by the present author are not single
valued; there are two values differing in sign whose choice determines
the symmetry of the amplitude for the interchange of k. Thus, the choice
of sign cannot be decided without additional assumptions. This point is
discussed in section III of the paper. The author expresses his
indebtedness to Prof. S. Szczeniowski for continuous interest and
encouragement and for reading and discussing the text. Dr. H. Cofta is
mentioned. There are 6 references: 2 Soviet, 2 US, and 2 German.

ASSOCIATION: Institute of Theoretical Physics, A. Mickiewicz University,
             Poznań

Card 2/2

89381

24.7900 (1147, 1158, 1160)

AUTHOR: Fechner, Bogdan

TITLE: On the high temperature susceptibility of ferrimagnetics and
             antiferrimagnetics

PERIODICAL: Acta Physica Polonica, v. 20, no. 1, 1961, 89-91

TEXT: The present paper is a letter to the editor. The author extends
the calculations of the zero-field susceptibility, which for ferro- and
antiferromagnetism were carried out by W. Opęchowski (Physica, 4, 181
(1937)) and others, for the case of ferri- and antiferrimagnetism with
arbitrary spin of the magnetic atoms. The author starts with the
Hamiltonian in the form

$$\mathcal{H} = -2 \sum_{\langle i,j \rangle} J_{ij} S_i S_j - g\beta H \sum_i^N S_i^z$$

which relates to an ordered crystal structure composed of two kinds of
magnetic atoms. $\langle i,j \rangle$ means that the summation is extended over all

Card 1/4

69381

On the high temperature susceptibility...

neighboring lattice sites in which magnetic atoms are present. The
expansion for the susceptibility is obtained in the form

$$\chi = \frac{g^2 \beta^2 \tilde{S}}{3kT} \sum_{n=0}^{\infty} \frac{a_n}{(kT)^n},$$

where $\tilde{S} = n_A \tilde{S}_A + n_B \tilde{S}_B$. The coefficients a_n are given up to n = 3. They
are valid for any crystal structure composed of N_A - A and N_B - B atoms.
$N_A + N_B = N$ is the number of lattice sites occupied by magnetic atoms.
J_{AA}, J_{BB}, and J_{AB} are the three kinds of exchange interaction. In the
expressions for a_n it holds: $\tilde{S}_i = S_i(S_i + 1)$. $n_A = N_A/N$ and $n_B = N_B/N$
are the concentrations of the two components. The p's and c's are
structural parameters of the following meaning: c_{AA} is the number of
nearest A neighbors to an A atom, c_{AB} is the number of nearest B neighbors
to an A atom, etc. $N_A p_{3A}$, $N_A p_{2A,B}$, $N_B p_{2B,A}$, and $N_B p_{3B}$ are the numbers of

Card 2/4

On the high temperature susceptibility...

triangles the sides of which join neighboring lattice sites occupied respectively by: Three A atoms, two A and one B atom, two B and one A atom, three B atoms. The author also obtained the expansion of the inverse susceptibility

$$\chi^{-1} = \frac{3kT}{g^2 \beta^2 \tilde{S}} \sum_{n=0}^{\infty} \frac{b_n}{(kT)^n}$$ with the coefficients $b_0 = 1$, $b_1 = -a_1$,

$b_2 = a_1^2 - a_2$, $b_3 = 2a_1 a_2 - a_1^3 - a_3$. There are 4 non-Soviet+bloc references.

ASSOCIATION: Institute of Theoretical Physics, A. Mickiewicz University, Poznań

SUBMITTED: October 31, 1960

$$a_1 = \tfrac{1}{3}\bar{S}^{-1}(n_A c_{AA}\bar{S}_A^2 J_{AA} + n_B c_{BB}\bar{S}_B^2 J_{BB} + 2n_A c_{AB}\bar{S}_A\bar{S}_B J_{AB}).$$

Card 3/4

$$a_2 = \tfrac{1}{3}\bar{S}^{-1}(n_A c_{AA}[4(c_{AA}-1)\bar{S}_A - 3]\bar{S}_A^2 J_{AA}^2 + n_B c_{BB}[4(c_{BB}-1)\bar{S}_B - 3]\bar{S}_B^2 J_{BB}^2 +$$

On the high temperature susceptibility...

$$+ 2n_A c_{AB} [2(c_{BA} - 1)\,\bar{S}_A + 2(c_{AB} - 1)\,\bar{S}_B - 3]\,\bar{\delta}_A \bar{S}_B\, J_{AB}^2 +$$

$$+ 8n_A c_{AA} c_{AB} \bar{S}_A^2 \bar{S}_B\, J_{AA} J_{AB} + 8n_A c_{BB} c_{AB} \bar{S}_A \bar{S}_B^2\, J_{BB} J_{AB}\}.$$

$$a_3 = \tfrac{1}{16} \tilde{S}^{-1} \{ n_A [2(5c_{AA}(c_{AA} - 1)^2 - 3c_{AA} - 30p_{2A})\,\bar{S}_A^2 - 3(c_{AA}(5c_{AA} - 3) + 10p_{3A})\,\bar{S}_A +$$

$$+ 6c_{AA}]\,\bar{S}_A^2\, J_{AA}^3 + n_R [2(5c_{BB}(c_{BB} - 1)^2 - 3c_{BB} - 30p_{2B})\,\bar{S}_B^2 - 3(c_{BB}(5c_{BB} - 3) +$$

$$+ 10p_{3B})\,\bar{S}_B + 6c_{BB}]\,\bar{S}_B^2\, J_{BB}^3 + n_A c_{AB} [4(5(c_{AB} - 1)(c_{BA} - 1) - 3)\,\bar{S}_A\,\bar{S}_B -$$

$$- 3(5c_{BA} - 3)\,\bar{S}_A - 3(5c_{AB} - 3)\,\bar{S}_B + 12]\,\bar{S}_A \bar{S}_B\, J_{AB}^3 +$$

$$+ 5n_A c_{AA} c_{AB} [4(c_{AA} - 1)\,\bar{S}_A - 3]\,\bar{\delta}_A^2 \bar{S}_B\, J_{AA}^2 J_{AB} +$$

$$+ 5n_A c_{BB} c_{AB} [4(c_{BB} - 1)\,\bar{\delta}_B - 3]\,\bar{S}_A \bar{S}_B^2\, J_{BB}^2 J_{AB} - 5n_A [(6p_{2A,B} + 3c_{AA} c_{AB}) +$$

$$+ 4(2p_{2A,B} - c_{AA} c_{AB}(c_{BA} - 1))\,\bar{S}_A]\,\bar{S}_A^2 \bar{S}_B\, J_{AA} J_{AB}^2 -$$

$$- 5n_B [(6p_{2B,A} + 3c_{BB} c_{BA}) + 4(2p_{2B,A} - c_{BB} c_{BA}(c_{AB} - 1)\,\bar{S}_B]\,\bar{S}_A \bar{S}_B^2\, J_{BB} J_{AB}^2 +$$

Card 4/4
$$+ 20n_A c_{AA} c_{BB} c_{AB} \bar{S}_A^2 \bar{S}_B^2\, J_{AA} J_{BB} J_{AB}\}.$$

L 14373-63   EWT(1)/BDS/EEC(b)-2/ES(s)-2   AFFTC/ASD/SSD   Pt-4   IJP(C)

ACCESSION NR: AP3001819   P/0045/63/023/005/0601/0611

AUTHOR: Fechner, Bogdan

62
60

TITLE: Paramagnetic susceptibility of ferrimagnetic and antiferrimagnet systems. I. General part.

SOURCE: Acta physica polonica, v. 23, no. 5, 1963, 601-611

TOPIC TAGS: Paramagnetic susceptibility, ferrimagnetic system, antiferri-magnetic systems, ferrite cluster method, spin operator., cyclic transposition., molecular field theory

ABSTRACT: The temperature dependence of the paramagnetic susceptibility for ferrimagnetic and antiferrimagnetic substances is derived by means of the series expansion method in the form given by Rushbrooke and Wood. In the ferromagnetic case various more precise methods taking the short-range order effects into account, such as the cluster method of P. R. Weiss, the constant coupling approximation of Kastelejn and Van Kranendonk and the series expansion method of Opechowski, Rushbrook and Wood and others have been used. The expression for the susceptibility Chi and its inverse Chi^{-1} are represented as a power series of the reciprocal

Card 1/2

L 14373-63

ACCESSION NR: AP3001819

absolute temperature. Explicit formulae for the first three leading coefficients are given which hold for any crystal containing two types of magnetic atoms with arbitrary spin; three kinds of exchange interactions are allowed. Table I has columns "Kind of product" and "Average value"; table II, "Cluster sum," "configuration", "number of labelled configuration in the crystal". The general formulae derived for the first three leading coefficients in the series expansion of the susceptibility and its inverse in ascending powers of the reciprocal temperature hold for any crystal structure that contains two types of magnetic atoms.
       "The author is indebted to Professor S. Szczeniovski for his continuous encouragement and valuable indications during the present work."
       Orig. has 2 tables, 1 fig (in 17 parts) and 51 numbered equations.

ASSOCIATION: Instytut Fizyki Teoretycznej Uniwersytetu A. Mickiewicza, Poznan (Institute of Theoretical Physics of the A. Mickiewicz University)

SUBMITTED: 28Jul62   DATE ACQ: 01Jul63   ENCL: 00

SUB CODE: NS
                                   NO REF SOV: 001
                                                            OTHER: 009

Card 2/2

ACCESSION NR: AP4017209   P/0045/64/025/001/0061/0070

AUTHOR: Fechner, Bogdan

TITLE: Paramagnetic susceptibility of ferrimagnetic and antiferrimanetic systems.

TOPIC TAGS: paramagnetic susceptibility, ferrimagnetic, antiferrimagnetic, manganese ferrite, exchange interaction coefficient, Neel's formula, molecular field theory, asymptotic approximation, Bethe-Weiss cluster theory, inverse susceptibility

ABSTRACT: The expression for the temperature dependence of the paramagnetic susceptibility derived in the first part of the paper is applied to manganese ferrite and the experimental data are compared. The paper discusses the possibility of evaluating the three phenomeological exchange interaction coefficients, and proves that they may be so chosen as to get a satisfactory agreement between theory and experiment for high temperatures. It also compares

Card 1/3

ACCESSION NR: AP4017209

the expression for susceptibility with formulas resulting from other theories
and concludes that: 1) Neel's formula for inverse susceptibility, based on
molecular field theory, is an asymptotic approximation valid only in the limit
when the exchange interactions become very long-range; otherwise, it is exact
only in the first two terms; 2) the expression for susceptibility given by
the Bethe-Weiss cluster theory is valid only up to the fourth-power term of its
expansion in powers of 1/T; the expression for inverse susceptibility, only
up to the second-power term of the analogous expansion. One section is on
"Application to ferrites"; another compares the cluster theory.

Card 2/3

ACCESSION NR: AP4017209

Orig. art. Has: 22 equations plus 6 in an appendix (on two formulas in Smart's original paper in Phys. Rev., 101, 1956).

ASSOCIATION: Katedra Fizyki Teoretycznej Uniwesytetu im. A. Mickie-wicza, Poznan (Chair of Theoretic Physics of the Mickiewics University)

SUBMITTED: 12Jul63   DATE ACQ: 18Mar64   ENCL: 00

SUB CODE: MM   NO REF SOV: 000   OTHER: 010

Card 3/3

FECHNER, Bogdan

Paramagnetic susceptibility of ferrimagnetic and antiferri-
magnetic systems. Pt.2. Acta physica Pol 25 no.1:61-70
Ja '64

1. Institute of Theoretical Physics, A. Mickiewicz Univer-
sity, Poznan.

FECHNER, Bogdan, dr

Ferromagnetism.   Problemy 21 no.3:135-146 '65.

S/073/62/028/004/003/004
I017/I217

AUTHORS: I.N. Sheyko, and V.G. Feshtenko

TITLE: Study on the partial elasticity of Berillium chloride
            vapors in mixtures with sodium and potassium chlorides

PERIODICAL: Ukrainskii khimicheskii zhurnal, v.28, no.4, 1962,
            473-403

TEXT: The elasticity of the $BeCl_2$ vapors and the partial elasticity
of the systems $BeCl_2$-NaCl and $BeCl_2$-KCl are studied. It was found
that a linear dependence exists between lg.p and $1/T$. The partial
elasticity of $BeCl_2$ for the system NaCl-$BeCl_2$ is higher than that
obtained for the system KCl-$BeCl_2$. This is explained by the higher
stability of the complex compound K_2BeCl_4 in comparison to Na_2BeCl_4.
The calculated activities and activity coefficient at $400^{\circ}C$ for the
systems NaCl-$BeCl_2$ and KCl-$BeCl_2$, show that the activity of $BeCl_2$
in the system NaCl-$BeCl_2$ is higher than its activity in the system
KCl-$BeCl_2$.

Card 1/2

S/073/62/028/004/003/004
I017/I217

Study on the partial elasticity...

ASSOCIATION: Institut obchtey y neorganicheskoy khimii AN USSR
(Institute for General and Inorganic Chemistry AS
Ukr SSR)

SUBMITTED: June 16, 1961

Card 2/2

KALINOWSKI, Kazimierz; FECKO, Jerzy

Iodocoulometric method for the mocrodetermination of noramidopyrine sodium methanesulfonate (Novalgin). Acta pol. pharm. 20 no.1:53-58 '63.

1. Z Zakladu Chemii Farmaceutycznej Akademii Medycznej v Lodzi Kierownik: prof. dr K. Kalinowski.
(AMINOPYRINE)   (SULFONIC ACIDS)   (CHEMISTRY, PHARMACEUTICAL)
(MICROCHEMISTRY)   (IODINE)

FECKO, Jerzy

Volumetric determination of sodium noramidopyrine methane-
sulfonate (Novalgin) with the aid of barium chloride.
Acta pol. pharm. 20 no.3:225-228 '63.

1. Z Zakladu Chemii Farmaceutycznej Akademii Medycznej w
Lodzi Kierownik: prof. dr K. Kalinowski.
          (AMINOPYRINE) (BARIUM) (INDICATORS AND REAGENTS)
                  (CHEMISTRY, PHARMACEUTICAL)

FECKO, Jerzy

Determination of phenylbutazone chloraminometric and mangano-
bromometric methods. Acta Pol. pharm. 21 no.2:155-160 '64.

1. Z Zakladu Chemii Farmaceutycznej Akademii Medycznej w Lodzi
(Kierownik: prof. dr. K. Kalinowski).

KALINOWSKI, Kazimierz, prof. dr.; FECKO, Jerzy.

Chloro- and bromo-coumlometric determination of phenylbutazone.
Acta Pol. pharm. 21 no.3:247-251 '64

1. Z Zakladu Chemii Farmaceutycznej Akademii Medycznej w Lodzi
(kierownik: prof. dr. K. Kalinowski).

REISS, Ladislav, inz., prof.; FECKO, Stefan, inz.; KARAFFA, Marian, inz.

Some results of the tests of electromechanical strength
of suspended insulators. Energetika Cz 13 no.12:629-630
D '63.

1. Katedra elektroenergetiky, Slovenska vysoka skola
technicka, Bratislava.

FEČZE, Daniel, dipl. ek.

Economic aspects of electric power production and distribution.
Elektroprivreda 16 no.1:7-29 Ja '63.

1. Clan Redakcionog odbora za Hrvatsku, "Elektroprivreda."

FECZKO, Adalbert

Forming of money accumulations and their utilization for the develop-
ment of the technicd1 and material base of socialism. Probleme econ
16 no.2:161 F '63.

1. Director, Carbochim, Cluj.

POPOV, A.A., nauchnyy sotrudnik; FED', L.S., nauchnyy sotrudnik

Automatic control of the lighting system in poultry houses. Mekh.
sil'.hosp. 13 no.12:25 D '62. (MIRA 16:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut ptitsevodstva.
(Ukraine--Poultry houses and equipment) (Lighting)
(Automatic control)

FICA, I. YA.- "Principal Problems in the Agricultural Techniques of Winter Wheat Under Conditions of the Zaprozh'ye Oblast'." Odessa Agricultural Inst, Odessa, 1955 (Dissertations for Degree of **Candidate of Agricultural Sciences**)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

FIALA, J.

Deformation of buildings in undermined territories. p. 375.

INZENYRSKE STAVBY. (Ministerstvo staebnictvi)
Praha, Czechoslovakia   Vol. 7, no. 10, Oct. 1959.

Monthly List of East European Accession, (EEAI), LC, Vol. 8, No. 12, Dec. 1959
Uncl.

FEDA, Jaroslav, inz., C.Sc.

Some problems of soil mechanics solved in the German
Demorcratic Republic. Inz stavby 10 no.4:147-150.
Ap '62.

1. Ustav teoreticke a splikovane mechnaiky, Ceskoslovenska
    akademie vod, Praha.

FEDA, Jaroslav, inz., C.Sc.

Determining the liquid limit of soil by Vasil'ev's cone penetration test. Stav casopis 10 no.10:596-607 '62.

1. Ceskoslovenska akademie ved, Ustav teoreticke a aplikovane mechaniky, Praha.

DENISOV, N.J. [Denisov, N.Ya.), prof. (Moscow); KAMENOV, B., inz.
[translator]; FEDA, J., inz., C.Sc. [translator]

Some problems in laying foundation on loess subsoil. Inz
stavby 10 no.11:412-415 N '62.

FEDA, Jaroslav, inz., CSc.; KAMENOV, Boris, inz.

Shear strength of granular soils under plane strain
conditions. Stav cas 11 no.6:397-411 '63.

1. Ustav teoreticke a aplikovane mechaniky, Ceskoslovenska
akademie ved, Praha.

FEDA, Jaroslav, inz., KAMENOV, Boris, inz.

Shear strength of granular soils under axially symmetrical stress. Stav cas 11 no.7:417-429 '63.

1. Ustav teoreticke a aplikovane mechaniky, Ceskoslovenska akademie ved, Praha.

FEDA, J., inz. CSc

International Society ^ S-il Mechanics and Foundation Engi-
neering. Stav cas 12 no;3:199-200 '64.

FEDAK, Dezso

New water-conducting ~~blist~~ ~~mon~~ · at Zahony. Vasut 14
no.10;32-3 of cover. O '64.

FEDAK, Jerzy; RYDZEWSKI, Andrzej

Gabbro from the Sobotka 2a borehole. Kwartalnik geol 6 no.4:
760 '62.

1. Zaklad Zloz Rud Metali Niezelaznych, Instytut Geologiczny,
Warszawa.

FEDAK, Jerzy

POLAND

FEDAK, Jerzy; LINDNER, Maria

Geological Institute (Instytut Geologiczny)

Warsaw, Przegląd Geologiczny, No 8, August 63, pp 370-71.

"Remarks on Elaboration Principles of Metallogenic Maps".

FEJAK, GY.; MATTHA, B.

FEJAK, GY.; MATTHA, B. To what unit should the factory bureau for standards belong? p. 26.

Vol. 10, no. 7, July 1956
TORETNILAL S
Budapest, Hungary

So: East European Accession, Vol. 6, No. 5, May 195.

FEDAK, IVAN P

Fedak, Ivan P.: Varka vysokokachestvennogo stekla (Making High-quality Glass). Moscow: Gosudarst. Izdatel' stvo Lit. po Stroitel'nym Materialam. 1952. 21 pp.

Y, J.

"Cooperation between Engineers and Technici n on one ... and bookkee r
nd Economists on the Other in the Attem t to Reduce Trim Cost o
Production in the Machinery Manuf cturing Industry", . 86, (CH K,
Vol. 27, No. 8, Aug. 1954, W rszawa, Poland)

O: Monthly Li t of Ea t European Accessions, (L), L , Vol. , . 5,
y 195 , Uncl.

FEDAK, Jerzy

Regional metallogeny and methods of plotting metallogenic maps. Przegl geol 10 no.1:23-27 Ja '62.

1. Instytut Geologiczny, Warszawa.

FEDAK, Jerzy

Prospects of nickel ore deposits of the basic intrusions of the
Sudeten. Przegl geol 11 no.4:189-191 Ap '63.

1. Zaklad Zloz i Rud Metali Niezelaznych, Instytut Geologiczny,
Warszawa.

L 21136-65   EPA(s)-2/EWT(m)/EWP(b)/T/EWA(d)/EWP(e)/EWP(t)   ASD(m)-3/AS(mp)-2
WH/JD   S/0133/64/000/009/0805/0808
ACCESSION NR: AP4045655

AUTHOR: Oyks, G. N.; Matevosyan, P. A.; Ansheles, I. L.; Fatkullin, O. Kh.;
Selivanov, V. M.; Shury*gin, G. D.; Sivkov, S. S.; Fedan, A. T.

TITLE: Results of vacuum casting ball-bearing steel by different methods

SOURCE: Stal', no. 9, 1964, 805-808

TOPIC TAGS: vacuum casting, ball bearing steel, degassing alumina rich
brick lining

ABSTRACT: A new method involving vacuum casting by gas circulation was
developed by the authors in collaboration with B. S. Petrov, M. N. Kul'kova,
Ye. N. Ponomarev, Yu. I. Ponomareva, R. M. Zimina, V. I. Fedorov and
K. V. Belyakov. The new production process was compared to the method em-
ployed at Krasnyy Oktyabr' Plant comprising vacuum casting in the ladle which
was found to be ineffective in the treatment of 20 to 30 ton charges. Therefore,
the plant metallurgists tried out degassing of the steel in the jet as well as
circulation vacuum casting. The specimens were adequately degassed with the

Card 1/2

L 21136-65
ACCESSION NR: AP4045655

steel giving up gas at a rate of 200 to 300 1/min. Hydrogen contents decreased from 43 to 54%. In the process of vacuum casting steel in the ladle, the specimens displayed greater amounts of oxide and sulfide inclusions than in circulation vacuum casting or vacuum casting during reladling. The greatest number of globular inclusion was identified in specimens produced by vacuum casting in the ladle. The appearance of this defect is attributed to the increased contact of lightweight melts with chamotte refractories. The authors give preference to circulation vacuum casting despite globule formation and suggest that the use of alumina-rich brick for the lining of the vacuum chamber through which argon is blown and for the sleeve coil lining would substantially improve this process. However, it still remains to be tested on a mass production scale and with heavy weight melts. Orig. art. has: 3 figures and 2 tables

ASSOCIATION: None
SUBMITTED: 00
NR REF SOV: 003

ENCL: 00
OTHER: 002

SUB CODE: MM

Card 2/2

FEDAN A.T.

L 45219-65   EWT(m)/EWP(s)/EWA(c)/T/EWP(b)/EWA(d)/EWP(t)   MJW/JD
ACCESSION NR: AP5000386   S/0148/65/000/003/0053/0058

AUTHOR: Vinnichenko, Ye. V.; Kosterev, L. B.; Yavoyskiy, V. I.; Danilin, V. I.;
Selivanov, V. M.; Fedan, A. T.

TITLE: Experiments with molten slag degassing of steel

SOURCE: IVUZ. Chernaya metallurgiya, no. 3, 1965, 53-58

TOPIC TAGS: degassing, slag, chromium steel

ABSTRACT: Degassing experiments done on four grades of steel: 1Kh13, Kh17,
Kh23N18 and Kh23N13. A low-viscosity basic synthetic slag was prepared in an elec-
tric furnace and mixed with the steel in an intermediate vessel before teeming.
Melt temperatures, gas content, and slag chemical composition were checked during
the process. It was found that with properly prepared slag and good contact of
slag and metal the original hydrogen content of the metal may be reduced by 20-30%.
Another index of degassing is the hydrogen content of the slag at the start of re-
finement. Several concomitant mechanisms for degassing are adduced including the
volatilization of HF. At some distance from the electrode, it is possible that the
reverse process occurs, i.e. the solution of hydrogen in slag, but the dominant pro-

Card 1/2

L 45219-65
ACCESSION NR: AP5008386

tion is the desorption of hydrogen, particularly desorption at the electrode. The regular relationship between the absolute lowering of hydrogen content and the gas saturation of steel when the temperature of the refining slag is above 1340°C is shown. Simultaneous investigations of the nitrogen content in the metal showed that while some titanium nitrides do adhere to coarse inclusions in the slag, the use of molten slag for degassing does not reduce the nitrogen content of the steel. "M. M. Kulkova, L. T. Shepel', I. N. Zimina, K. V. Belyakova, A. S. Spirin and A. F. Son'kin participated in the work." Orig. art. has: 4 figures, 2 tables, 5 formulas.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys); Metallurgicheskiy zavod "Krasnyy Oktyabr'" (Krasnyy Oktyabr' Metallurgical Plant)

SUBMITTED: 16Nov64   ENCL: 00   SUB CODE: MM

NO REF SOV: 004   OTHER: 003

Card 2/2

OYKS, G.N.; MATEVOSYAN, P.A.; ANSHELES, I.I.; FATKULLIN, O.Kh.; SELIVANOV, V.M.; SHURYGIN, G.D.: SIVKOV, S.S.; FEDAN, A.T.; Prinimali uchastiye: PETROV, B.S.; KUL'KOVA, M.N.; PONOMAREV, Ye.N.; PONOMAREVA, Yu.I.; ZIMINA, R.M.; FEDOROV, V.I.; BELYAKOVA, K.V.

Results of vacuuming ball-bearing steel by various methods. Stal'
24 no.9:805-808 S '64.   (MIRA 17:10)

FATKULLIN, O.Kh.; CHUKHLOV, V.I.; OYKS, G.N.; ANSHELES, I.I.; SIVKOV, S.S.;
FEDAN, A.T.; FEDOROV, V.I.; DANILIN, V.I.

Deoxidizing ball-bearing steel with vacuum treatment by ferroaluminum.
Metallurg 10 no.12:20-22 D '65.   (MIRA 18:12)

1. Zavod "Krasnyy Oktyabr'" i Moskovskiy institut stali i splavov.

DRYAKHLOV, A.I. (L'vov); FEDAN, R.G. [Fedan, R.H.] (L'vov)

Automation of a process for establishing and maintaining optimum operating conditions in turbine drilling of oil wells. Avtomatyka no.5:54-58 '61. (MIRA 14:10)

      (Oil well drilling)   (Automatic control)

KHOKHLOV, Ivan Vasil'yevich; zasluzhennyy deyatel' nauki i tekhniki
Komi ASSR; SHERSTNEV, Nikolay Vasil'yevich, inzh.; FEDANOV,
Vladimir Petrovich, inzh., zasluzhennyy deyatel' nauki i
tekhniki Komi ASSR; ZAYTSEV, Sergey Ivanovich, inzh.;
SEREBRYANYY, A.G., otv.red.; OKHRIMENKO, V.A., red.izd-va;
SABITOV, A., tekhn.red.

[Mining of Pechora Basin coal deposits] Razrabotka ugol'nykh
mestorozhdenii Pechorskogo basseina. Moskva, Gos.nauchno-tekhn.
izd-vo lit-ry po gornomu delu, 1960. 289 p.

(MIRA 13:12)

(Pechora Basin--Coal mines and mining)

FEDAROVICH, P.

On the bread steppes. Rab. i sial. 30 no.7:12-14   Jl '54.(MIRA 9:4)
(Kustanay Province--Women as farmers)

USSR

GERM

Electrolytic polishing of metals. II. Anodic behavior of steels. P. M. Frolov and V. P. Gololobov. Nauch. Zapiski Dnepropetrov. Gosudarst. Univ. 43, 119-26(1953); Referat. Zhur., Khim. 1954, No. 33009.— By using the method of polarization curves, the anodic behavior of C steels RF-1 and 21-203 was studied in pure H_3PO_4 (sp. gr. 1.6) in a mixt. of 15% H_3PO_4 plus 85% H_2SO_4 (sp. gr. 1.84), and in a soln. of H_3PO_4 + H_2SO_4 + CrO_3 100 g./l. The polarization curves were obtained by the usual compensation methods, the strength of the current being maintained until a const. potential (V) was established. At small c.d. the anodic dissoln. of Fe was accompanied by evaluation of H. On the current-potential curves was a flat area corresponding to limiting current (D) which depended on the compn. of the electrolyte, its concn., and the nature of the anode. For the steel RF-1 in H_3PO_4, D was in a semilogarithmic relation to the concn. of the acid. In H_3PO_4 and in H_3PO_4 + H_2SO_4 both steels behaved alike. Compared with these steels, C steel had a higher value of D. In the presence of CrO_4, all the steels had the same value of D which was rather small. Attainment of D was connected with an increase of V to a certain value independent of the concn. of the electrolyte. The changes in V took place at an increasing rate which changed to a jump. III. Nauch. Zapiski Dnepropetrov. Gosudarst. Univ. 43, 127-36(1953); Referat. Zhur., Khim. 1954, No. 33000.—The anodic film which formed in the course of anodic dissoln. of metals was studied. The results confirmed the theory of microelectrochem. dissoln. of metals. With an arrangement of: horizontal anode\thin layer of CCl_4\electrolyte\cathode\ it was shown in principle that it was possible to smooth unevenness of the surface by anodic dissoln. through a layer of a dielec. With Cu-Fe and Cu-Zn micro pairs it was shown that metals different in their phys.-chem. properties dissolved anodically at the same rate at certain definite c.ds. and a corresponding electrolyte. A study of the temps. of

the anode and the cathode during electropolishing showed
that when the limiting current was reached, there was an
anode film having a high elec. resistance. The mechanism
of electrode electropolishing was discussed. M. Hosch

FEDASH, G. M.

FEDASH, G. M.- "Study of Physical Properties of Iron Alloys." Min of Higher Education
USSR, Kiev, State U imeni T. G. Shevchenko, Kiev, 1955 (Dissertations For the Degree
of Candidate of Physicomathematical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

Fedash G. M.

USSR/Magnetism - Ferrites   F-6

Abs Jour   : Referat Zhur - Fizika, No 5, 1957, 12025

Author   : Kurikekh, D.G., Fedash, G.M.

Inst   : Dnepropetrovsk Metallurgical Institute imeni I.V. Stalin

Title   : Effect of Concentration of Manganese and the Degree of
               Cold Plastic Deformation on the Physical Properties of
               Ferrite.

Orig Pub   : Fiz. metallov i metallovedeniye, 1956, 2, No 3, 464-471

Abstract   : The authors give the results of the measurements of the
               magnetic characteristic, electrical resistivity (ρ),
               and the Hall-Kikoin constant (R_ρ) as a function of the
               manganese contents and of the degree of cold plastic de-
               formation of Fe-Mn alloys, containing from 1 to 12% man-
               ganese. It is shown that ρ and R_ρ increase with increa-
               sing manganese concentration up to 8% and with increasing

Card 1/2

USSR/Magnetism - Ferrites

Abs Jour   : Ref Zhur - Fizika, No 5, 1957, 12025

degree of deformation. However, the change in the concen-
tration of the alloy leads to a strong change in these cha-
racteristics, while the change in the degree of deformation
affects them insignificantly. The influence of the manga-
nese concentration on ρ and R_ρ is connected with the chan-
ge of the number of conduction electrons, and the influence
of the deformation, is connected with the disturbance to
the energy levels of the conduction electrons. The coerci-
ve force (H_c) increases with increasing manganese concen-
tration. Upon deformation of alloys containing more than
3% manganese, the H_c curves have a minimum, which is due
to the redistribution of the manganese in the solution.

Card 2/2

126-2-12/30

AUTHOR: Fedash, G.M.

. TITLE: Studies of the coercive force of cold-deformed and annealed
iron alloys. (Issledovaniye koertsitivnoy sily
kholodnodeformirovannykh i otozhzhennykh zheleznykh splavov).

· PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals
and Metallurgy), Vol.IV, No.2, 1957, pp.257-266 (U.S.S.R.)

ABSTRACT: Results are reported of an experimental investigation of
the coercive force of alloys of iron as a function of the
concentration of the alloying elements, the degree of cold
deformation, and the temperature of annealing respectively.
It is shown that for cold plastic deformation and annealing
the changes in coercive force have a different character in
alloys containing elements which raise the A_3 point, and
alloys containing elements which lower the A_3 point.
Diffusion processes tending to separate the components have
been shown to take place as a result of the deformation and
incomplete annealing. Figs. 1 show the coercive force as a
function of the concentration of the alloying elements. The
basic material used in the preparation of the alloys was of
Card 1/3   the following composition: 99.65% Fe, 0.03% Si, 0.04% Mn,
0.12% Ni, 0.037% C, 0.02% C, 0.02% P, 0.016% S and 0.077% Cu.
As can be seen from Figs. 1, the coercive force H_c increases

Studies of the coercive force of cold-deformed and
annealed iron alloys. (Cont.)   126-2-12/30

with concentration not only for carbon steels, which are
two-phase systems of ferrite and cementite, but also in
the case of formation of α-hard homogeneous solid solutions.
In the latter case, manganese and nickel are the most
effective in increasing H_c of ferrites. Cobalt has
practically no effect and silicon slightly lowers its
values. Figs. 2 show the effect of cold plastic
deformation in alloys of iron with chromium, cobalt,
silicon, and carbon. In all cases H_c increases, in
roughly the same way, with concentration. The curve
rises fairly rapidly, then there is a bend in the curve,
and finally the curve rises again at an increased rate.
Exceptions of this are found in alloys containing more
than 8% of Ni or more than 3% of Mn. Below these
percentages the behaviour is the same as for the above
group, while above them the curves of H_c vs. deformation
fall at first and then rise again. Figs. 3 show the
effect of annealing. The curves of H_c versus
temperature of annealing fall at first but all have maxima
at about 600 C except for the case of Si alloyed
specimens. It is concluded that the alloys can be

Card 2/3

Studies of the coercive force of cold-deformed and
annealed iron alloys. (Cont.)   126-2-12/30

divided into the same groups by the nature of the changes
in H_c with concentration, deformation and annealing,
as well as by the character of the effect of the elements
on the critical point A_3.

Card 3/3   There are 3 figures and 1 table, and 7 references, all of
which are Slavic.

SUBMITTED: June 21, 1956. After revision August 10, 1956.

ASSOCIATION: Dnepropetrovsk Institute of Railway Transportation
Engineers imeni L. M. Kaganovich. (Dnepropetrovskiy
Institut Inzhenerov Zh.D. Transporta imeni L. M.
Kaganovicha).

AVAILABLE:

Fedash, G. M.

18.8100

81900

S/126/60/010/01/001/019
E111/E335

AUTHORS: Fedash, G.M. and Surovova, V.I.
TITLE: Investigation of Thermo-e.m.f. Produced in a Circuit of Deformed and Undeformed Homogeneous Metals

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.1, pp 20 - 23

TEXT: The authors chose zinc, which has a hexagonal lattice, for this investigation to find the influence of crystallographic-axis orientation and grain size on the behaviour of thermo e.m.f. in deformation and annealing of metals with a non-cubic lattice. V-shaped single crystals 180 mm long and 4 mm in diameter were grown by the Bridgman method. The angle between the base plane and the axis of the crystal in each of the shoulders was directly measured after cleavage of the single crystal along the (0001) base plane. One shoulder in the middle part was deformed by pressure and the specimen was connected to a galvanometer. One junction (boundary of deformed and undeformed parts of specimen) was heated while the second, together with the copper connectors and leads, was immersed

Card 1/3

81900

S/126/60/010/01/001/019
E111/E335

Investigation of Thermo-e.m.f. Produced in a Circuit of
Deformed and Undeformed Homogeneous Metals

in running water. Fig. 1a shows thermo-e.m.f. as functions
of temperature for deformations of 25, 40, 52 and 70%; Fig.2b
as a function of deformation for a constant temperature difference
During deformation the base plane rotated: Fig.2 shows for 40%
deformation thermo-e.m.f. as functions of temperature for
various base-plane orientations. Fig.3 shows the temperature
dependence of thermo-e.m.f. for the single crystal (Curve 1)
and for polycrystalline specimens of different grain sizes
(deformation 62%). The work showed that the thermo-e.m.f. depends
both on deformation and initial grain size and, for single
crystals, also on the mutual orientation of base planes in the
deformed and undeformed parts. Deformation of single crystals
gives a positive thermo-e.m.f., that of polycrystalline specimens
a negative one. A junction of two single crystals with different
base plane orientations showed no decrease in thermo-e.m.f. on
repeated heating. With different grain sizes in contact a
thermo-e.m.f. is produced.

Card 2/3

81900

S/126/60/010/01/001/019
E111/E335

Investigation of Thermo-e.m.f. Produced in a Circuit of
Deformed and Undeformed Homogeneous Metals
There are 3 figures and 4 Soviet references.
ASSOCIATION: Dnepropetrovskiy institut inzhenerov
zheleznodorozhnogo transporta   (Dnepropetrovsk
Railway Engineers Institute)

SUBMITTED: January 22, 1959, initially,
January 22, 1960, after revision.

Card 3/3

S/0137/64/000/002/I033/I033

ACCESSION NR: AR4027941

SOURCE: RZh. Metallurgiya, Abs. 2I187

AUTHOR: Kurilekh, L. P.; Fedash, G. M.

TITLE: Effect of the concentration of alloying elements on the Hall-Kikoin constant in iron alloys

CITED SOURCE: Nauchn. zap. Dneptropetr. un-t, v. 61, 1963, 3-7

TOPIC TAGS: Hall-Kikoin constant, iron alloy conductivity, Hall electromotive force, emf

TRANSLATION: The Hall emf, the induction of the samples and the electrical resistivity of the alloys Fe-Ni (up to 14.86 at. % Ni), Fe-Mn (up to 12.3 at. % Mn), Fe-Si (up to 10.755 at. % Si), Fe-Cr (up to 8.5 at. % Cr), and Fe-Co (up to 6.14 at. % Co) annealed for 8 hr at 1100° were measured as a function of the composition of the alloys at room temperature. The Hall-Kikoin constant and the resistivity rise with the concentration of the alloying elements, but the magnitude of the magnetic saturation in the region of homogeneous solid solutions decreases with increasing concentration of the admixtures, with the exception of Co, which raises the magnetic

Card 1/2

ACCESSION NR: AR4027941

saturation slightly. The results obtained lead the authors to the hypothetical
conclusion that the rise in the Hall-Kikoin constant is due to a change in the
number of conduction electrons. L. Kucherenko

DATE ACQ: 19Mar64   SUB CODE: PH, ML   ENCL: 00

Card 2/2

45637

S/126/63/015/001/024/029
E073/E420

24.7600

AUTHORS: Fedash, G.M., Surovova, V.I.

TITLE: Influence of Ni and Si on the physical properties
             of α-iron

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.1, 1963,
             148-150

TEXT: The physical properties of Fe-Ni and Fe-Si alloys
containing respectively up to 12 at.% Ni and 10.8 at.% Si are
investigated.   With increasing concentration of alloying
elements, the Hall emf increases and, for equal concentrations,
the increase is more rapid for Si than for Ni; the effect on the
electric resistance is similar.   Under the given test conditions,
the increase in the Hall emf cannot be due to the change in
magnetization and the ferromagnetic constant since the
magnetization remains almost constant for nickel alloys and
decreases for silicon alloys.   Therefore, the increase in the
Hall emf can be due only to the ordinary Hall constant, which is
inversely proportional to the concentration of conductivity
electrons.   This is in agreement with earlier results.   It
Card 1/3

S/126/63/015/001/024/029
E073/E420

Influence of Ni and Si ...

follows therefrom that silicon and nickel reduce the electron
density of the ferrite, whereby silicon has a greater effect than
nickel.   Thermo emf investigations showed that silicon increases
the thermo emf more than nickel, whereby the current in all the
specimens was in the direction from the alloy to the pure metal.
Earlier published results on the dependence of the hardness on the
composition of the alloys for the same specimens yielded curves
similar to the thermo emf curves.   This indicates that hardening
caused by the formation of solid solutions is associated with
changes in the interatomic interaction, which brings about a drop
in the concentration of conductivity electrons.   In the case of
Fe-Ni alloys, the range of uniformity of the α-solid solution is
limited by the appearance of the γ-phase.   A strict analogy
between the changes of the physical characteristics and hardness
was not observed for these alloys; whilst the Hall emf changes
slightly, the hardness and the thermo emf increase sharply. This
is attributed to the fact that in distinction to silicon, nickel
reduces the grain size, bringing about an increase in hardness;
a change in the grain size can also appreciably affect the

Card 2/3

Influence of Ni and Si ...

thermo emf.   There are 3 figures.

S/126/63/015/001/024/029
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Card 3/3

AUTHORS: Usatenko, Yu. I.,   Fedash, N. P.   SOV/32-24-1o-3/7o

TITLE: The Decomposition of Casting and Martin Cinders Which Are
Difficult to Dissolve According to the Sinter Method
(Razlozheniye trudnorastvorimykh liteynykh i martenovskikh
shlakov metodom spekaniya)

ABSTRACT: It has been found (Refs 1, 5) that only sintered and not
melted masses dissolve quickly in acids. In the case of
sintering a minimum of flux should be used, because in adding
flux components which are difficult to dissolve are being
added (Ref 5). In the present paper the results of the in-
vestigations mentioned in the title are given. The compo-
sition of the cinder is given in tables. It is mentioned
that cinders with a greater content of silicic acid and
aluminum oxide are more difficult to sinter and to dissolve
in the acid. The presence of manganese and chromium in the
cinders improves their sintering and the dissolution in the
acid. Cinders with a high content of silicic acid and alu-
Card 1/2   minum oxide must be heated to 1000 - 1100° for 1o - 15

SOV/32-24-1o-3/7o

The Decomposition of Casting and Martin Cinders Which Are Difficult to Dissolve According to the Sinter Method

minutes. In the case of manganese- and chromium cinders a heating up to 900 - 1000° for 5 - 1o minutes is sufficient. A table of results of the analysis of the cinders mentioned in the title is given as well as the results of a common melting. The decomposition of these cinders was carried out by sintering in platinum crucibles and using a small quantity of sodium carbonate. There are 2 tables and 5 references, 5 of which are Soviet.

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Card 2/2

FEDASH, N. P., Cand. Chem. Sci. (diss)"Decomposition of Nearly Insoluble Cast and Open-Hearth Slags by the Method of Sintering and Determination of Calcium Content," Kishinev, 1961, 14 pp (Kishinev State Univ.) 200 copies (KL Supp 12-61, 257).